



## Hair Loss and Hepatitis B Vaccine: Questions and Answers

### **Can vaccines cause hair loss?**

A recent study suggests that hair loss may occur in a few persons who have received vaccinations. This side effect, if confirmed by other studies, would be considered very rare. Other studies to further investigate these findings are underway.

From 1983-1995, 60 reports of hair loss were identified and evaluated among persons who had received vaccines. These few cases of hair loss were out of the hundreds of millions of doses of vaccine that have been given to the general population. This study alone cannot prove that vaccines cause hair loss. There may be other health conditions responsible for the hair loss that could not be identified. The study of these cases was conducted using information gathered from the Vaccine Adverse Event Reporting System (VAERS). VAERS reports can be submitted by anyone who has received a vaccine and has concerns about health problems that occur afterwards.

### **Which vaccines were looked at in the study?**

All vaccines with reports of hair loss were investigated. The hepatitis B vaccine appeared more often than other vaccines to suggest an association with these rare cases of hair loss.

Of the cases reported, 46 of the 60 persons who reported loss of their hair had received hepatitis B vaccine. A few patients lost hair again when they received additional doses of the hepatitis B vaccine (3 doses are recommended).

### **Who is at risk for experiencing hair loss after vaccination?**

Specific risk factors are not known at this time.

The study found more women than men reporting the hair loss but there could be other reasons for this such as: 1) Men may not report hair loss as often as women because they typically wear their hair shorter, and hair loss may not be as noticeable as it would be in women with longer hair. In addition, some men expect to lose their hair as they age (e.g. male pattern baldness). 2) Women and health care workers who reported hair loss are more in touch with their health care providers about health concerns.

### **Did the hair grow back?**

Yes, in more than half of the cases that could be evaluated. However, a few cases had only partial regrowth of hair.

Severe hair loss over more than half of the head or body was reported to have occurred in 16 of 37 cases that could be evaluated. Of the 16 reports of severe hair loss, eight persons recovered most or all of their hair, and four reported persistent baldness. Also, of those 37 cases, 18 reported mild to moderate hair loss with most of the hair still intact. Nine (or half of these) had complete recovery. One did not have a complete recovery, and the outcomes of eight cases were unknown.

## **What are other possible causes of hair loss?**

Hair loss can be caused by many things including: some medications, high fevers, hormonal changes, pregnancy, surgical shock, transplant surgery, poor diet (lacking in essential fatty acid, biotin, zinc, iron deficiency), anemia, aging, male pattern baldness, thyroid disease causing decreased thyroid levels (hypothyroidism), severe emotional stress, and autoimmune disease (disease that affects the body's ability to recognize its own tissues, causing it to gradually destroy them).

## **What is being done to investigate the hair loss finding, or other reactions to vaccines?**

The Centers for Disease Control and Prevention (CDC) in collaboration with the Food and Drug Administration (FDA) will continue to investigate the possible association between vaccine and hair loss along with other vaccine reaction questions.

The CDC and FDA will continue to evaluate the results of this study using more detailed and powerful statistical methods. Researchers plan to check the results of the original research and investigate the risk factors. Information from the Vaccine Safety Datalink (VSD) will be used to conduct one follow up study. The Vaccine Safety Datalink project was created by CDC in 1991 to permit detailed scientific assessment of vaccine safety concerns. This successful project has linked computerized vaccination and medical records of more than one million children in four Health Maintenance Organizations (HMO's). Approximately 6 million people in the U.S. participate in the VSD project. The data gathered for VSD project is expected to help answer questions about possible side effects associated with vaccines.

## **What is hepatitis B?**

Hepatitis B is a virus that attacks the liver and can cause serious illness or death.

The virus, which is called hepatitis B virus (HBV), can cause lifelong infection, cirrhosis (scarring) of the liver, liver cancer, liver failure, and death.

## **How do you get hepatitis B?**

You can get hepatitis B by coming into contact with blood or body fluids of an infected person.

One of the most common ways of coming into contact with infected fluids is by having sex with an infected person. Another way is by using needles or syringes that are not sterile.

## **Who is at risk for hepatitis B?**

Hepatitis B can affect anyone. One out of 20 people in the United States will get hepatitis B at some time during their lives.

Each year, an estimated 300,000 persons, primarily young adults, are infected with hepatitis B virus. One-quarter become ill with jaundice (yellow color skin), more than 10,000 patients require hospitalization, and an average of 250 die of the disease. Each year an estimated 4,000 persons die of hepatitis B-related cirrhosis of the liver, and more than 800 die of hepatitis B-related liver cancer. In the United States approximately 750,000-1,000,000

persons carry the disease.

### **What is in the hepatitis B vaccine?**

Two types of hepatitis B vaccines are currently licensed in the United States. The two are 1) the recombinant hepatitis B vaccine and 2) the plasma-derived vaccine, which is no longer being produced in the United States.

The commonly used vaccine is recombinant hepatitis B vaccine, which is produced by using common baker's yeast. The vaccines contain no more than 95% Hepatitis B surface antigen protein, and no more than 5% of yeast-derived protein. The vaccine also includes very tiny amounts of other additives such as aluminum hydroxide which help to stabilize and preserve the vaccine.

### **What other side effects are associated with hepatitis B vaccine?**

Most persons who receive hepatitis B vaccine have no side effects at all. Of persons who do experience side effects the most common include pain at the injection site (3-29% of persons vaccinated), and mild fever (1%-6% of persons vaccinated).

As with any medication or vaccine, there is a very small risk that serious problems, even death could occur from someone having a serious allergic reaction.

### **Is it still a good idea to get the hepatitis B vaccine?**

Yes. Immunizations are the best protection against vaccine preventable diseases, such as hepatitis B.

These findings about hair loss do not change the current recommendations for children and adults to receive the hepatitis B vaccine. Getting the disease is much more likely to cause serious illness than getting the vaccine. Each year an estimated 4,000 persons die of hepatitis B-related cirrhosis, and more than 800 die of hepatitis B-related liver cancer.

### **What should I do if I believe I have had a reaction from the hepatitis B vaccine, or any vaccine?**

You should contact your health care provider if you suspect you have had a reaction or side effects from a vaccine. You or your health care provider should also report this information to the Vaccine Adverse Effects Reporting System at 1-800-822-7967.

### **References**

Wise RP, Kiminyo KP, Salive, ME. Hair loss after routine immunizations. JAMA. Oct 8, 1997. Vol 278. No.14:1176-1178, 1198.

Centers for Disease Control. Protection Against Viral Hepatitis: Recommendations of the Immunization Practices Advisory Committee (ACIP). MMWR 1990/Vol.39/No. RR-2.